

**THIS OPINION WAS NOT WRITTEN FOR PUBLICATION**

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** LLOYD KAMO

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Appeal No. 93-1311  
Application 07/279,713<sup>1</sup>

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ON BRIEF

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Before John D. Smith, Garriss and Pak, **Administrative Patent Judges**.

Garriss, **Administrative Patent Judge**.

**DECISION ON APPEAL**

This is a decision on an appeal which involves claims  
1 through 37, which are all of the claims in the application<sup>2</sup>

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<sup>1</sup> Application for patent filed December 5, 1988.

<sup>2</sup> We observe that the claim amendment filed August 6, 1992 (i.e., Paper No. 18), although authorized by the examiner to be entered, has not been clerically processed with respect to the requested amendment of claims 2-4, 6-11, 13, 14, and 16 (see amendment page 1) or of claims 22 and 35 (see amendment page 2). This matter should be rectified upon return of the application to the jurisdiction of the examiner.

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The subject matter on appeal relates to an article comprising a substrate having thereon a chromium oxide densified insulative ceramic coating comprising refractory oxide bubbles with a melting point above that of glass bubbles as well as to a method for the production of such an article.<sup>3</sup> Further details of this appealed subject matter are set forth in representative independent claim 1, which reads as follows:

1. An article comprising a substrate and a chromium oxide densified insulative ceramic coating upon the surface of the substrate, the coating comprising:

refractory oxide bubbles with a melting point above that of glass bubbles, a refractory oxide and a water insoluble oxide effecting a bond between the refractory oxide and said substrate.

The only rejection now before us on this appeal is under 35 U.S.C. § 103, and the following references are relied upon by the examiner in support of this rejection:

Jones et al. (Jones)	4,615,913	Oct. 7, 1986
Beck	4,744,831	May 17, 1988

All of the appealed claims stand rejected under 35 U.S.C. § 103 as being unpatentable over Jones in view of Beck.

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<sup>3</sup> Consistent with the appellant's specification disclosure, we interpret the appellant's claim language "refractory oxide bubbles with a melting point above that of glass bubbles" as referring to discrete bubbles (such as hollow beads or spheres) of refractory oxide material (e.g., see the first full paragraph on specification page 2) as opposed to pockets of air trapped in the coatings of the prior art (e.g., see the last full paragraph on specification page 1).

We cannot sustain this rejection.

It is the examiner's fundamental position that it would have been obvious for one with ordinary skill in the art to replace the hollow glass beads, which function as a burn-out material to provide increased porosity, in Jones' coating (e.g., see lines 49-51 in column 6 and lines 61-65 in column 16) with the hollow inorganic spheres taught by Beck. However, these references contain no teaching or suggestion that Beck's spheres should be used in a coating environment of any kind much less the coating of Jones or that Beck's spheres would be even capable of "burn-out" as required of Jones' beads. Stated otherwise, these references provide no suggestion for combining their teachings in the manner proposed by the examiner and no suggestion that such a combination would be successful. *In re O'Farrell*, 853 F.2d 894, 13902, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988).

In this latter regard, it is appropriate to emphasize that a burn-out material must be physically disposed within a coating in order to increase coating porosity and that the sphere diameters disclosed by Beck (e.g., see lines 14-27 in column 3) are generally larger than the thicknesses of Jones' coating layers (e.g., see the layer thicknesses in Tables IV and V). Indeed, the smallest sphere diameter disclosed by Beck is larger than

many of the layer thicknesses disclosed by Jones, and the largest sphere diameter disclosed by Beck is larger than any of the layer thicknesses disclosed by Jones. It is apparent that the spheres of Beck could not possibly be used as a burn-out material in the coating of Jones to the extent that sphere diameter is greater than coating layer thickness. Moreover, for all we know based on the record before us, Beck's method of forming hollow inorganic spheres is incapable of producing spheres of a sufficiently small diameter as to be effectively used in Jones' coating layer.

Under the circumstances recounted above, we cannot agree with the examiner's conclusion that it would have been obvious for one with ordinary skill in the art to use the spheres of Beck in the coatings of Jones. It follows that we cannot sustain the above noted section 103 rejection of claims 1 through 37 as being unpatentable over Jones in view of Beck.

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The decision of the examiner is reversed.

***REVERSED***

John D. Smith	)	
Administrative Patent Judge	)	
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	)	
Bradley R. Garriss	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
Chung K. Pak	)	
Administrative Patent Judge	)	

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